

IN THE CLAIMS

The following is a complete listing of the claims, and replaces all earlier versions and listings.

1. (currently amended) A method for manufacturing a printed circuit board element, wherein starting from comprising the steps of:

providing a printed circuit board substrate ~~[[(12)]]~~ with at least one conductor layer;

~~[[(13),]]~~

structuring the ~~[[this]]~~ conductor layer; ~~is structured as well as~~

roughening ~~roughened~~ the whole structured conductor layer in the surface area;

applying and metal (16) is applied thereon characterised in that a noble metal layer (16) is applied on the whole structured, roughened conductor layer ~~[[(13)]]~~, wherein the surface of the noble metal layer ~~[[is]]~~ being provided with a corresponding roughness; and ~~[[(8')]]~~

applying at least one electric PTF component in the area of the surface-roughened noble metal layer by imprinting.

2. (canceled)

3. (canceled)

4. (currently amended) ★ The method according to claim 1, characterised in that wherein the surface of the conductor layer (13) is roughened by ionic etching.

5. (currently amended) ~~★ The~~ method according to claim 1, characterised in that wherein the surface of the conductor layer (13) is roughened by mechanical processing.

6. (currently amended) ~~★ The~~ method according to claim 1, characterised in that wherein the surface of the conductor layer (13) is roughened by electroplating.

7. (currently amended) ~~★ The~~ method according to claim 1, characterised in that wherein the noble metal layer (16) is applied on the conductor layer (13) with a thickness of between 0.02 μm and 1 μm , preferably 0.02 μm and 0.5 μm .

8. (currently amended) ~~★ The~~ method according to claim 1, characterised in that wherein the noble metal layer (16) is applied on the conductor layer (13) in a chemical-currentless manner.

9. (currently amended) ~~★ The~~ method according to claim 1, characterised in that wherein the noble metal layer (16) is applied on the conductor layer [(13)] by electroplating.

10. (currently amended) ~~★ The~~ method according to claim 1, characterised in that wherein the noble ~~metall~~ metal layer (16) is applied on the conductor layer (13) by cathodic evaporation.

11. (currently amended) ~~★ The~~ method according to claim 1, characterised in that wherein the noble ~~metall~~ metal layer (16) is applied on the conductor layer (13) by sputtering.

12. (currently amended) ~~★ The~~ method according to claim 1, characterised in that wherein a layer made of at least one metal from the group comprising silver, gold, palladium, and platinum,[[]]is used as the noble metal layer [[(16)]].

13. (canceled)

14. (currently amended) ~~★ The~~ method according to claim 13 ~~1~~, characterised in that wherein the electric component (~~4~~) is a resistor, ~~e.g. a PTF-resistor.~~

15. (currently amended) [[A]] ~~The~~ method according to claim 1, characterised in that wherein, after having applied the noble metal layer [[(16)]] on the roughened conductor layer [[(13)]] ~~as well as, optionally, and~~ after having ~~mounted~~ applied the electric component (~~4~~) ~~on the upper side of to the printed circuit board substrate (12)~~ surface-roughened noble metal layer, a further printed circuit board structure [[(1')]] is applied ~~together with the surface roughened noble metal layer (16)~~ and [[thus]] a pressing to a multi layer is ~~yielded~~ performed.

16. (currently amended) [[A]] ~~The~~ method according to claim 1, characterised in that wherein, after having applied the noble metal layer [[(16)]] on the roughened conductor layer (~~13~~) ~~as well as, optionally, and~~ after having ~~mounted~~ applied the electric component [[(4)]] on the upper side of the printed circuit board substrate (~~12~~) surface-roughened noble metal layer, a solder stop mask is mounted ~~together with the surface roughened noble metal layer (16).~~

17. (currently amended) ~~★ The~~ method according to claim 1, characterised in that wherein a

printed circuit board substrate (12) with two conductor layers (13; 13') is used, and wherein at least one conductor layer is structured and roughened.

18. (currently amended) ~~A~~ The method according to claim 1, ~~characterised in that,~~ wherein, after having been structured, the conductor layer is roughened in the surface area.

19. (currently amended) A printed circuit board element comprising:

a printed circuit board substrate with at least one ~~structured~~ conductor layer, the conductor layer being structured, and the whole structured layer being (13) on a substrate (12), which substrate has a roughened in the surface [(8),] area;

a noble and with metal [(16)] layer on the whole structured, roughened conductor layer [(13)], ~~characterised in that a surface-rough~~ the surface of the noble metal layer (16) is applied on the whole roughened conductor layer (13) and serves as contact promoting and stabilizing layer, on the one hand, and as adherence promoting layer, on the other hand having a corresponding roughness; and

at least one imprinted electric PTF component in the area of the surface-roughened noble metal layer.

20. (currently amended) [[A]] The printed circuit board element according to claim 19, ~~characterised in that~~ wherein a further printed circuit board structure (14) is provided on the surface-rough noble layer [(16),] forming a multilayer ~~configuration~~.

21. (currently amended) [[A]] The printed circuit board element according to claim 19,

~~characterised in that wherein~~ a solder stop mask is mounted on to the surface-rough noble metal layer [(16)].

22. (canceled)

23. (currently amended) [[A]] The printed circuit board element according to claim 22, ~~characterised in that wherein~~ the electric component [(4)] is a resistor, ~~e.g. a PTF-resistor.~~

24. (canceled)

25. (currently amended) [[A]] The printed circuit board element according to claim 19, ~~characterised in that wherein~~ the noble metal layer [(16)] has a thickness of between 0.02 μm and 1 μm , ~~preferably 0.02 μm and 0.5 μm .~~

26. (currently amended) [[A]] The printed circuit board element according to claim 19, ~~characterised in that wherein~~ the noble metal layer [(16)] has at least one metal selected from the group consisting of silver, gold, palladium, and platinum.

27. (currently amended) [[A]] The printed circuit board element according to claim 19, ~~characterised in that wherein~~ the substrate [(12)] has two structured conductor layers, ~~(13, 13')~~, wherein ~~on at least one layer a noble metal layer (16) is applied at least one conductor~~ layer being structured and roughened.

28. (new) The method according to claim 1, wherein the noble metal layer is applied on the conductor layer with a thickness of between 0.02 μm and 0.5 μm .

29. (new) The printed circuit board element according to claim 19, wherein the noble metal layer has a thickness of between 0.02 μm and 0.5 μm .